8:Panikkar I-4, 5 (no date) 1918 AWll Kerala AWll Nayar



and wives with others as a universal national custom; (c) the absence of "*Sati*."[1]

In view of the fact that the Veddas are a strictly monogamous people, the prevalence of this custom in Ceylon can only be attributed to South Indian influence. Existing as it does in almost physical contiguity, it is indubitable that these customs and the Nāyar customs had the same origin. In fact, a Naga community was spread over the whole of South India, and the pressure of Aryan emigration seems gradually to have driven them behind the western Ghats in the case of the Nāyars and beyond the straits in the case of their kindred in Ceylon.

The Laws of Philology also support this view. I am assured by Don de Z. Wickerma Singhe that the change from "ɢ" to "ʏ" (as from Naɣar to Nayar) is very commonly met with in Dravidian and Prakistic languages. Apart from the general consonance of this change to the philological rules, Mr. Wickerma Singhe also pointed out to me that in Sinhalese[2] the Sanskrit word *Nāga* is written and pronounced as *Naya*.

The word *Nāyar*, therefore, is, without a shadow of doubt, the same as the word *Nāgar*, which means serpent-men.

*Note 2.—The Nāyars and the Todas.*

Dr. Rivers, in his learned and elaborate study of the social conditions of the Todas, makes some interesting comparisons with regard to their customs and some of the survivals in Nāyar social life. Before venturing to criticise some of his deductions I may be allowed to state that his idea of the emigration of the Todas to their present country from Malabar is probably right, though the evidence that he has adduced does not in any way prove it. The following facts which he has not noticed may give some additional weight to this hypothesis. Among the Nāyars the dairy (*Pal-pura*) is considered a thing to be kept *ceremonially pure*. No unclean person may approach it, and even the pollution of a child-birth is considered to be sufficiently strong to preclude those whom it affects from touching things belonging to the *Pal-pura*. It would be an exaggeration to say that the *Pal-pura* is considered sacred, but it is certainly *purer* than any other part of the house. Also the way in which the Todas convert milk into butter-milk is exactly the same as among the Nāyars. These customs with regard to the dairy are prevalent, not only where there is geographical contiguity between the Nāyar-land and the Toda-land, but also in Middle Travancore, which is at least two hundred and fifty miles from the land of the Todas.

Some, however, of the arguments brought forward by Dr. Rivers would not bear critical investigation. For example, he says[3]: "More important is the custom of

[1] *Ibid.*
[2] Cf. Wm. Greiger, *Sinhalese Etymology.*
[3] Pp. 699–70.

11: India G-4, 5 (1960-1961) 1962 AWll Kerala AWll



1.9 The distance within which these rivers descend to the sea level being very short, there are generally a large number of steep falls or a series of cascades in their courses. These provide a rich potential for generation of hydro-electric power, which can be generated at a low cost (1.7 nP per kWh on an average). This low cost power potential is an important asset of Kerala from the point of view of the future programmes of industrialization.

1.10 Some other implications of topographical features are not so obvious. For example, the lakes, the lagoons and the backwaters fringed with coconut palms, no doubt, impart to Kerala its characteristic scenic beauty and provide one of the chief tourist attractions. Their importance, however, goes much beyond the purely aesthetic aspect. In fact, the backwaters—especially in the Travancore-Cochin region—are indirectly responsible for providing the means of livelihood to a vast section of the population. Coir spinning, the chief industry of Kerala, is located in this State primarily because of the natural retting facilities provided by the backwaters. The availability of these facilities is unique in the case of Kerala. In almost all other coconut-growing areas of India, the coconut husks go waste because of the absence of natural retting facilities. Since coir industry provides an occupation to 4 to 5 lakh persons (about 10% of the total working force and 40% of industrial working force), one can well imagine what the unemployment situation in Kerala would have been in the absence of the backwater facilities. The backwaters have also facilitated the development of a wide network of inland waterways all along the coastline. Apart from employing a large number of persons in towing or rowing the boats, the inland waterways provide inexpensive modes of transporting the agricultural produce and light industrial goods manufactured in the coastal area.

1.11 Up till now only some of the favourable consequences of physical features have been pointed out. The sloping terrain and preponderance of backwaters in the coastal area also possess a negative aspect. The heavy downpour is gradually leaching off the mineral content of the soils, thus rendering them generally poor in their fertility status. One of its ultimate consequences is the fact that livestock feed available in Kerala is deficient in mineral content and this in turn reduces the yield of milk of the livestock. The heavy precipitation of rain also creates a serious flood control problem in Kerala.

1.12 The backwaters raise other problems as well. During the dry summer months saline water from these flows into the lower reaches of the rivers, many of which fall into the backwaters. This has an adverse effect on cultivation and the supply of drinking water in the coastal areas. Coastal areas are, therefore, beset with the problem of salinity control. The chain of consequences does not stop here. Recently implementation of one of the important salinity control measures in Kerala, viz., the Thanneermukkom bund across the Vembanad lake has created a new problem in its wake. The accretion of limeshell deposits, an important raw material found in the lake, depends on the high salinity of the lake water. Since, after putting up of the barrage salinity of water will get reduced, it will have adverse repercussions on the long run supply position of the limeshells. This, in turn, jeopardizes the long run prospects of the cement industry in the State which is based on the limeshells.

[text continues on p. 6]

11: India G-4,5 (1960-1961) 1962 AW11 Kerala AW11



and milk products in the State as a result of which people have to lean more heavily on fish and tapioca.

1.36 Among the items of non-food expenditure the significant point is the higher percentage of expenditure devoted to clothing. The neatness and cleanliness of dress worn by the people of Kerala is evident even to a casual visitor to the State.

*The Food Gap*

1.37 The superior cropping pattern has also brought with it a huge food deficit. In this, Kerala leads all the other States. The current production of foodgrains is estimated at 9.6 lakh tons, whereas requirements on the basis of a norm of 17 ozs. per day would come to about 24 lakh tons, leaving a gap of nearly 14.6 lakh tons. The width of this gap is only partially closed by the consumption of tapioca as part of the diet by poorer sections of the people, although it does form an important second line of defence in the lean years as in 1940's when there was a severe food shortage.

1.38 Wide as the food gap in Kerala is, it has often led to the formulation of solutions which, if given effect to, would be retarding the operation of inherent growth factors in the Kerala economy. Every economy may present some "growth leaders", and development consists in stimulating and invigorating them. The climate and physical formation of Kerala favour the growth of a large number of valuable cash crops. It is this sector to which maximum attention should be devoted. Kerala is better suited to serve the role of an exchange economy which relies for its food requirements on the other parts of India and in return contributes to the economic development of the country by earning valuable foreign exchange through the export of raw and semi-processed commodities.

*Other Primary Activities*

1.39 Of the other three primary activities, viz., animal husbandry, forestry and fisheries, the former, that is, livestock is rather poorly developed. Due to the poor breed, and the natural deficiency in the livestock feed, the cattle is of poor quality with milk yields much lower than the all-India level. The only exception to this is poultry. Kerala can claim to have the best developed commercial poultry in India, the eggs produced in Kerala going even as far north as Punjab. However, in view of under-feeding and the poor conditions under which the birds are reared, there is still a lot of unexploited potential in poultry development.

1.40 Forestry and fishery are the two other sectors which hold an important place in the economy of Kerala. The forests in the State are rich in some of the valuable species like teak and rosewood. As a result of forest management on scientific lines and the high quality of forest growth, their yield per acre in Kerala during 1955-56 was as high as Rs. 18 against the all-India average of Rs. 5.6. This sector is crucial as a source of supply of industrial raw materials.

1.41 Kerala ranks foremost among the fish-producing States of India. In 1957 total fish landings in Kerala were 3.41 lakh tons. With only 10 per cent of the all-

## Chapter 3

# Animal Husbandry

23 ANIMAL HUSBANDRY IN Kerala is poorly developed. It stands in sharp contrast to the well-developed agricultural sector. With the exception of poultry, low livestock productivity marks all aspects of animal husbandry. The milk yield in the State is among the lowest in the country. The total production of milk in Kerala in 1956 has been estimated at 1.82 lakh tons,[1] which works out to a per capita production of 1.3 ozs. as against the minimum of 10 ozs. per capita recommended by the Nutritional Advisory Committee of the Indian Council of Medical Research. This is also true of yield of meat from sheep and goat. Consequently, the contribution of animal husbandry to the State income is comparatively low. During 1957-58 the net contribution of livestock to State income was Rs. 12.2 crores, that is, only 3.3 per cent of the State income while for all-India it was about 8 per cent.

*Livestock Population*

3.2 According to the 1956 Census of livestock, Kerala had a total livestock population of 4,168,000. This consisted of 2,510,000 cattle; 4,88,000 buffaloes; 97,820 sheep; 113,711 pigs; 956,000 goats, fowls and ducks. The number of cows and she-buffaloes in milk per thousand of human population was very low at 30, while the same was as high as 148 in Madhya Pradesh, 123 in Punjab, 150 in Rajasthan (all-India 80). Other major heads of livestock in the same year were sheep (97,820) and pigs (113,711).

3.3 In 1956 there were 838,000 working cattle in the State (Table 20). The significant fact about this is the high proportion of buffaloes to the total working cattle. The buffaloes constituted about one-third of the draught animals. The corresponding all-India proportion in the same year was only 9 per cent. Buffaloes are popular in Kerala as draught animals, because of their superior draught capacity and greater suitability for the puddled type of cultivation. This has an important bearing on the formulation of the future breeding policy.

3.4 Between the Census of 1951 and 1956 the livestock population rose by over 17 per cent in the State as against only 4.8 per cent for the entire country. There has been an all round increase under all the major heads except pigs (—3.6%) and sheep (—77%). A large increase in the livestock and poultry population may be partly due to a higher level of reporting in the Census of 1956 over the previous Census.

[1] *Indian Livestock Statistics*, 1953-54 to 1955-56, Ministry of Food and Agriculture, Government of India.

But much of this increase is the consequence of a greater diversification in agricultural activities with a view to reducing unemployment and under-employment among family labour and raising the family income. Poultry-keeping has, of late, become very popular with the rural families and it is unusual to find families in the rural areas which do not rear at least a few laying birds. Kerala produced 137 million eggs (hen eggs—114 million; duck eggs—23 million) in 1951, and ranked fifth among the States in egg production. Production of eggs is now much higher and may be around 200 million. Kerala is also the biggest exporter of eggs. These are sent as far as Punjab in the north, Calcutta in the east and Bombay in the west and even to foreign countries, mainly Ceylon.

*Low Productivity of Livestock*

3.5 On an average a cow yields 330 lbs. of milk per year, a buffalo 619 lbs. and a goat 40 lbs. These yield rates compare very unfavourably with those for other parts of India (Table 16).* The low productivity of animals is partly due to the poor inherent breed characteristics and partly due to the conditions under which they are reared. The cattle found in Kerala are all of a non-descript type. They are small in size and build. They are stunted in growth. Buffalo in Kerala weighs about half of its counterpart in U.P. or Punjab. The same is true of other livestock too.

3.6 The livestock, especially the bovines, are reared under unwholesome conditions. They are under-fed. The bulk of the ration consists of roughages, mostly rice straw, and is grossly deficient in proteins and other protective properties. The livestock feed available in Kerala is also highly deficient in some of the important bone-building minerals such as calcium and phosphates. This is a direct consequence of a high rainfall which has leached off most of these minerals from the root zones of soils. In the absence of adequate phosphatic and calcium soil amendments, the crops grown in such soils are poor in these minerals. Lack of minerals has a telling effect on the health, build and general condition of the livestock of Kerala. The small size and build are important causes responsible for their low milk yield and poor work output.

3.7 Nutritional deficiencies lead to a number of serious consequences. Poor health results in low vitality and resistance to diseases as well as a low rate of nutritional utilization from feeds. All these factors are responsible for a low level of efficiency and other hazards such as a high rate of mortality and a low rate of fertility. However, realizing the reasons for low productivity, many enlightened farmers have taken to scientific rearing of livestock and have started adding concentrates, such as waste grains, oil cakes and mineral mixtures to the cattle feed. Credit for this goes to the State's Animal Husbandry Department which has been making special efforts to educate the peasantry on the need for adding mineral mixtures to the livestock feed. The Department has been distributing mineral mixtures to farmers at subsidized rates in order to popularize them.

3.8 In view of the very poor quality of livestock in the State there is an urgent need for developing animal husbandry in Kerala. Although animal husbandry

* [Table 16, appearing on p. 282 of the text, has not been processed -- Analyst]

11: India G-4,5 (1960-1961) 1962 AWII Kerala AWII



part of poultry population still consists of the indigenous types despite the introduction of high yielding exotic breeds such as Rhode Island Reds and White Leghorns in the early thirties. The local breeds give 50 to 60 eggs a year, while the average by the White Leghorn and Rhode Island Reds in the Government farm is 186 and 172 eggs respectively.[1] This can convey some idea of the magnitude of unexploited potential in the poultry industry.

3.18 Commercial poultry-rearing as a subsidiary occupation by the farmers has come to be recognized as the quickest and the easiest way of increasing farm incomes and providing employment to the under-employed. In view of these advantages, poultry industry has a special appeal in Kerala. It has been estimated by some experts that through replacement of indigenous birds with the exotic ones, the contribution from this sub-sector to the total State income could be more than doubled. This would be possible in less than five years, provided the pullets of desired types are made available to the farmers in adequate numbers at a low cost. The State should strive to achieve this by opening a large number of poultry extension centres. It is suggested that by the end of 1965-66 there should be at least one poultry extension centre in each Community Development Block. During the Third Plan, 143 additional centres may be opened and all these should work in close association with the block cooperatives. An investment of Rs. 35.75 lakhs would be needed to start the proposed centres.

3.19 Duck-rearing is done only on a small scale in the State in spite of the fact that conditions in most parts of Kerala are very well suited for commercial duck-keeping. Vast inland water resources and the abundant fauna in them is an ideal condition for large scale commercial duck-rearing. There is good demand for duck products particularly in Calcutta and Ceylon but this export potential could be developed only when the fowls are bred in sufficiently large number. It is, therefore, suggested that this potential should be fully exploited and the State should take adequate steps in the matter. In order to make the programme economical, some of the poultry development blocks may include multiplication of suitable duck breeds for distribution. Efforts may be made to select the best from the local birds and rear them for producing pullets for distribution.

*Rearing of Goats*

3.20 Goat-rearing under stall-fed conditions is customary in Kerala. This is quite contrary to the practice found in other parts of the country, where the goats are let out during the major part of the day for free browsing. Rearing of goats, as it is practised in Kerala, does not lead to dangers such as suppression of vegetation, crop destruction, etc.

3.21 Goats are reared both for milk and meat. The average milk yield per goat is low, 40 lbs. per annum, as against the all-India average of 127 lbs. (Table 16). This is due to poor management and general malnutrition, but could be easily raised to the all-India level with improved feeding and better care. As a matter of fact it is not unusual to find goats yielding as high as 400 to 500 lbs. of milk in urban households and this is due to better management.

[1] *Administration Report of the Animal Husbandry Department, 1957-58, Government of Kerala, 1959.*

11: India G-4, 5 (1960-1961) 1962 AWII Kerala AWII



3.25 The supply of succulent green fodder throughout the year also needs to be improved. The farmers should be induced to grow leguminous and perennial fodders like elephant and napier grass in the field corners or on waste lands. Distribution of seeds and cuttings to the farmers and demonstration of fodder cultivation on the fields of cultivators would go a long way in improving the production of green fodder. Municipalities and panchayats may also organize fodder farms for utilizing sewage and city compost.

3.26 The development measures and aids proposed here, when implemented, would increase the output of animal husbandry products. Proper feeding of cattle and buffaloes can bring about an immediate increase of about 50 per cent in the production of milk.[1] Egg production may increase by over 100 per cent of the present output. Similar increases may be expected in other items too. This would give rise to the problem of suitable utilization of the additional output. Surprisingly enough, even the existing production is not being suitably utilized. For instance, even though milk output in the State is very low and there is an acute scarcity of fluid milk in the urban areas, as much as 41 per cent of the milk is processed into ghee.[2] In a State like Kerala which has a shortage of milk, it would have been more appropriate to consume the maximum possible amount of milk in a fluid state rather than in the form of milk products, since fluid milk is more wholesome and the processing of milk partly destroys its vital nutritional content. This situation is due to lack of purchasing power with the rural people together with absence of facilities to market the milk in the urban areas. Since milk is a highly perishable commodity, the next best course for producers to follow in such a situation is to process it into the comparatively non-perishable ghee. But this is a wasteful process and the profits are also low.

3.27 It is also gathered that 15 to 25 per cent of the total egg production in the State is wasted by breakage and spoilage due to defective and inadequate marketing facilities. Unless adequate and prompt measures are taken to remove drawbacks in the marketing system, the measures proposed here cannot be expected to yield full benefits and the producers cannot be expected to take a sustained interest in these. The solution to this problem lies in providing at least some of these facilities, the most urgent being the organization of marketing and processing facilities and services for dairy and poultry products.

## DAIRY DEVELOPMENT

3.28 Dairy development on scientific lines is a pressing need. This was a neglected field prior to the Second Plan. During the Second Plan, however, dairy development received some attention. Two schemes for processing 150 maunds of milk per day, one each in Trivandrum and Calicut, were taken up during the Second Plan. Each

[1] *Third Five Year Plan, Draft Outline*, Government of Kerala, 1960.

[2] In 1956 the total production of milk in Kerala was 4,940 thousand maunds, of this 2,332 thousand maunds (47%) were consumed in the fluid state and 2,020 thousand maunds (41%) converted into ghee. (Source: *Indian Livestock Statistics, 1953-54 to 1958-59*: Issued by the Economic and Statistical Adviser, Ministry of Food and Agriculture).

of these schemes is being expanded to handle 250 maunds per day during the Third Plan. Under these schemes, milk from the surrounding villages would be collected and pasteurized before bottling them for sale. The schemes will serve a two-fold purpose: (i) they will give incentive for a higher production of milk in the rural areas by offering fair prices and (ii) they will provide hygienic milk to the urban population at a reasonable price. The unscrupulous middleman will be eliminated by this process.

3.29 The dairy development programme of this type needs to be taken up on a much larger scale than at present. This is necessary to provide an outlet for the likely increase in milk production and for making hygienic fluid milk available to the urban people. Owing to acute shortage of clean and pure milk in the urban areas, milk supply schemes of the type discussed above might prove a great success. It would be good if all the urban areas with a population of over 30,000 are served with such schemes. According to 1951 Census there were 13 towns in Kerala with a population exceeding 30,000. At the end of the Second Plan, 11 among these were still without any milk scheme. It is, therefore, suggested that these milk schemes should be organized in all these towns. The capacity, investment required, etc., for these schemes is given in Table 22.[2]

3.30 Many of the dairy units proposed here may find it difficult to get sufficient quantities of milk from the surrounding areas owing to the poor yield of animals and low marketable surplus with the farmers. In order to justify collection, marketing and sales organization of even the smallest size, it is considered necessary to have a handling capacity of 150 maunds per day. In case sufficient milk is not available, which is likely to be the case at least in some centres, a part of the capacity may be utilized for bottling reconstituted milk. Reconstituted milk can be of various types depending upon the fomulae. Milk powder is a common ingredient in all the types. A survey of consumer preference and tastes may be conducted before choosing the type, and part of the demand for fluid milk may be met in this way. Such a survey is essential before embarking upon the actual production of reconstituted milk because the new product may meet considerable consumer resistance in its initial stages. Propaganda and other measures to popularize the use of reconstituted milk will also have to be taken up side by side.

3.31 In smaller towns, that is, those with less than 30,000 population, cooperatives for supply of milk, may be organized with consumers or producers. There were 12 such societies in 1958. These societies should be encouraged.

3.32 Munnar is a region which possesses the potential for growth into a large scale commercial dairy farming centre. Many exotic cattle breeds[1] are thriving in the region. The performance of some of the herds maintained by a few sterling tea companies is said to be of a high order and compares favourably with that of similar herds maintained in the countries from which these cattle are imported. It is suggested that the Department of Animal Husbandry should further investigate the economic feasibility of commercial dairying in the Munnar region. If the investigation reveals prospects, the State may organize a few such dairy farms in the public

[1] Jersey and Holstein.

[2] [Table 22 appearing on p 286 of the text, has not been processed - Akalpat]

11: India G-4, 5 (1960-1961) 1962 AWll Kerala AWll



sector. The dairy farms may also take up the manufacture of high value items such as creamery products and *cheddar* cheese.

*Processing and Marketing of Poultry Products*

3.33 Proper disposal of poultry products is also a pressing need. At present there are a number of private as well as cooperative organizations in the Travancore-Cochin area for collecting and marketing poultry products. Some of them have even inter-State connections. These organizations have rendered satisfactory service to the poultry industry in Kerala. Credit goes to them for having developed export demand for poultry products of the State. All these organizations, however, are faced with serious limitations to further expansion and more efficient working. Their main problem is inadequate working capital. The other difficulties are: (*i*) lack of cold storage facilities, (*ii*) inadequate availability of transport aids and containers for safe transit, and (*iii*) lack of technical guidance. The State should take steps to remove these difficulties. It is suggested that the State should encourage municipalities to construct cold storage godowns. This would benefit not only the poultry industry, but also other activities such as horticulture, meat packing and fisheries. The other needs could be largely looked after by the Development Blocks. It is also suggested that the poultry cooperatives should be asked to grade eggs before marketing them.

3.34 It may not be possible to find market either inside or outside the State for all the marketable surplus in poultry products in the future. This fear is justified in view of the fact that significant development in poultry industry has taken place in some of the egg-importing States such as West Bengal, Madras, Punjab and Bombay under the Second Plan. It may, therefore, be expected that the production of eggs and other items in these States would increase considerably by the end of the Third Plan. Such a development would hit Kerala's exports adversely. In order to guard against such consequences, it is desirable that alternative means of disposal of eggs and poultry meat are planned now. The best method would be to set up a combined egg powder-cum-meat packing plant in a convenient location somewhere in the Travancore-Cochin area. The in take of the plant may be of the order of 30,000 eggs and 500 to 1,000 birds per day. The birds may be processed for preservation and packed in polyethelene bags in convenient numbers. A product like this is bound to be popular all over the country. The plant would need an investment of Rs. 3 lakhs.

3.35 Animal husbandry needs State support and help in other ways too. Loans from the State Government to both processers and cooperatives would be of a great help. The average farmer is at present unable to take to livestock-keeping as a subsidiary occupation on account of lack of funds for investment as well as for working capital. Normal farming agencies like banks and cooperatives do not serve them because of their non-credit worthiness and the uncertain nature of livestock business. Seeking the help of local money-lenders would be too expensive for these ventures. Only the State can solve the problem of rural credit in a situation of this type by making available larger *takavi* funds, arranging for loans through banks and cooperatives, by agreeing to share the risks, etc.

## INVESTMENT ESTIMATES

3.36 It is not possible to give the exact extent of investment that would be needed to implement the measures suggested here as the major part of investment would be in the nature of improvement in the rearing conditions, erection of broods, purchase of livestock, poultry, etc., which have to be undertaken by individual farmers themselves. The public sector component of total investment for the programmes suggested in the above pages comes to Rs. 2.7 crores. The major schemes for improvement of cattle, etc., and the likely public sector investment on these is given below:

| | Rs. lakhs |
|---|---|
| Breeding programme | 6.76 |
| Veterinary aid | 77.30 |
| Poultry Extension Centres | 35.75 |
| Dairies (milk-processing units) | 145.00 |
| Egg powder factory | 3.00 |
| TOTAL | 267.81 |

3.37 Assuming roughly that the proportion between private and public sector investment in the sphere of animal husbandry is the same as in the agricultural sector, private investment by farmers for improvement of livestock and poultry may be taken to be Rs. 3.5 crores. On this basis total investment, therefore, would add up to Rs. 6 crores during the coming decade.

3.38 As a result of the above schemes, it is estimated that milk production e ll go up by approximately 50 per cent while egg production may even double its f. Output of milk may, therefore, be expected to be 2·73 lakh tons and that of eggs 400 million by 1970-71. NCAER's population projections estimate the population of Kerala in 1970-71 to be 20.12 million. Consumption of milk by the end of the Fourth Plan is, therefore, likely to be about 2 ozs. per head, if the above measures are effectively implemented.

[Text continues on p 67]

11: India G-4, 5 (1960-1961) 1962 AWII Kerala AWII



TABLE 19

*NUMBER OF COWS AND SHE-BUFFALOES IN MILK PER THOUSAND POPULATION IN KERALA AND OTHER INDIAN STATES*

| State | *Number of cows and she-buffaloes in milk in 1956* | |
|---|---|---|
| | *Total number* | *Rate per thousand population of the State* |
| Andhra Pradesh | 3,017,303 | 89 |
| Assam | 1,012,055 | 96 |
| Bihar | 2,592,908 | 63 |
| Bombay | 4,277,810 | 91 |
| Jammu & Kashmir | 318,105 | 666 |
| Kerala | 457,711 | 430 |
| Madhya Pradesh | 4,087,860 | 148 |
| Madras | 1,716,664 | 53 |
| Orissa | 1,950,792 | 91 |
| Punjab | 894,638 | 45 |
| Rajasthan | 2,175,132 | 123 |
| Uttar Pradesh | 5,149,353 | 150 |
| West Bengal | 1,420,996 | 76 |
| Delhi | 37,156 | 27 |
| Himachal Pradesh | 233,079 | 208 |
| Manipur | 32,394 | 52 |
| Tripura | 67,792 | 103 |
| Andaman and Nicobar Islands | 1,416 | 35 |
| ALL-INDIA | *31,969,171* | *89* |

13:Thurston & Rangachari,E-4, 5 (no date) 1909
AW11 Kerala AW11
Nayar



564 country. They are confined to a few localities in Travancore, and until recently there was a distinctive difference in regard to dress and ornaments between the Tamil Padam and the ordinary Nāyars. The occupation of the Padamangalakkar is temple service, such as sweeping, carrying lamps during processions, etc. The Tamil Padakkar are believed to have taken to various kinds of occupation, and, for this reason, to have become merged with other sections.

5. Vāthi or Vātti.—This name is not found in the Jatinirnaya, probably because it had not been differentiated from Mārān. The word is a corruption of vāzhti, meaning praying for happiness, and refers to their traditional occupation. They use a peculiar drum, called nantuni. Some call themselves Daivampatis, or wards of God, and follow the makkathāyam system of inheritance (in the male line).

6. Itacheri or Idacheri, also called Pantaris in South Travancore. They are herdsmen, and vendors of milk, butter and curds. The name suggests a relation of some kind to the Idaiyan caste of the Tamil country.

7. Karuvelam, known also by other names, such as Kappiyara and Tiruvattar. Their occupation is service in the palace of the Mahārāja, and they are the custodians of his treasury and valuables. Fifty-two families are believed to have been originally brought from Kolathanād, when a member thereof was adopted into the Travancore royal family.

8. Arikuravan.—A name, meaning those who reduced the quantity of rice out of the paddy given to them to husk at the temple of Kazhayakkuttam near Trivandrum, by which they were accosted by the local chieftain.

9. Pallichchan.—Bearers of palanquins for Brāhmans and Malabar chieftains. They are also employed

31: Slater S-5 (1916-1917) 1918 AWI India
Kerala AWII



243 Area yielding one crop—205·23 acres.
Area yielding two crops—448·01 acres.

There are a few acres yielding three crops, but only two crops are assessed.

There are different kinds of paddy, each having different periods of growth, and specially suited to particular soils. The fields are manured and in some cases slightly ploughed just before the rains in summer. The south-west monsoon usually begins in June and lasts for four months. As soon as the rain comes, lands are ploughed and paddy is sown in particularly favourable areas. Then all the fields of the farmer are well ploughed and manured; the seedlings are replanted over the whole area after a growth of twenty-eight days. Some kinds of paddy grow for sixty days, others eighty and ninety days. The system in which no replantation takes place is also in much vogue. The fields are protected from animal or bird pests; after a period of at most three months the paddy is mown by agricultural workers who separate the paddy from the stalks.

Another crop is also generally sown during the north-east monsoon season (October and November) which usually gives rain for about one month.

[407] The ploughs used are primitive and old-fashioned. The furrowing is done in this wise:—a flat piece of iron sharpened at one end is attached to a wooden frame with a handle; this handled frame is attached by means of a pole to a yoke which is placed on the neck of a pair of oxen or buffaloes; the worker then holds the handle and drives the oxen round and round the field until the whole field is well furrowed over. This is done *before* the heavy rain, when the ground is softened, but not under water. The sod is then crushed by means of sticks, this being generally done by females. The women walk in a row, beating the sod to and fro with heavy sticks held in one hand. After the field has been well watered by rains it is once more worked over by means of a log of wood (levelling board) drawn by oxen.

[412] The other agricultural implements used are the sickle, a big knife and spades.

231 *Stock.*—The following is the official census of the stock:—

| | |
|---|---|
| Working oxen | 245 |
| Cows | 289 |
| Male buffaloes | 361 |
| Cow buffaloes | 20 |
| Young stock— | |
| Calves | 169 |
| Young buffaloes | 7 |
| Horses | 2 |
| Donkeys and mules | 22 |
| Sheep and goats | 583 |

Oxen are used to drag carts, and for ploughing the fields. Most of the oxen here appear to be lean and weak; especially those used in ploughing. Cart-drawing oxen are better.

• 234 Cows are used for milking only, though the Muhammadans of the locality are not averse to eating beef now and then. The milk, buttermilk and ghee of the cow are in great demand especially among the Brahmans who cannot do without them; the lower

31: Slater S-5 (1916-1917) 1918 AWI India
Kerala AWI



234 [804] castes very rarely use these products. The cows too are not brought up on a scientific basis, and are consequently of a weak build and generally yield from 4 nalis * to 6 or 8 nalis of milk per day.†

Male buffaloes are used in ploughing and sometimes to draw loaded carts. These too are of weak build.

Cow buffaloes are used mostly for milking, but sometimes in ploughing. The milk they yield is greater in quantity but inferior in quality to that of the cows.‡

231 Very little care is taken of the young of the above species. The young calf or calf-buffalo is not usually reared with the object of getting strong or vigorous oxen or buffaloes, but allowed to grow haphazardly. Some die off young, and especially the buffalo-calf since the buffalo can be milked without its young and not so the cows.§ The official figures in this respect (vide above) are instructive. The usual practice is to buy cows or buffaloes from a fair for milking purposes and to dispose of them, buffaloes especially, unless needed for ploughing, when the milk dries up.

The only use to which the horse is put is to drive jutkas, but as jutkas are rare in this village, horses are seldom seen here.

Donkeys and mules too are few.

Sheep and goats are used for their mutton which is in demand among the lower castes, but more for their milk, which is considered to be medicinal.

Pigs are reared for their flesh by the local Christians; the Muhammadans consider it to be a sacrilege even to utter the name.

Cows, oxen and buffaloes are made to stand in stalls, two or more being allowed to be in the same stall. Bundles of rice straw form the chief food, but green grass is used during the rainy season. Rice dust and poonac (copra from which the oil has been extracted) mixed in water is given. Cows are let loose during the daytime under care of a keeper to feed in the fields or near the hills.

241 237 Cattle-dung mixed with cattle urine is used as manure in the paddy fields. This is scattered in the fields during the hot season (April-May). The percentage of cattle-dung will approximately be 25 per cent of the total manure used. Dung is also used as fuel. Women are becoming averse to making varatties and use more wood.

Sheep dung is sometimes used.

241 But green manure consisting of leaves of certain plants and trees is scattered in the fields after they have been well ploughed in the first fall of the monsoon rains. Green manure is never grown, but is obtained from the neighbouring hills.

351 Every house without exception has a compound big or small surrounding it in which there are coconut palms, arecanut palms, mango trees, jack fruit trees, plantains, etc., and sometimes pepper. During the hot months (March-April-May) vegetables

* [1 nali (nari or nazhi) = ¼ of a Madras measure and very nearly = 9 fluid ounces or nearly half a pint.—Ed.]

† I.e., one or two quarts of milk per day. A Madras cow yields up to five quarts per day.

‡ [I.e., it is less valued. Buffalo's milk is very rich.—Ed.]

§ [It is a fact that an Indian cow refuses to give milk without the calf. If the calf dies the dairyman stuffs the skin and makes an imitation calf. This serves the purposes. —Ed.]

31: Slater S-5 (1916-1917) 1918 AWI India
Kerala AWII



west, and sold there. The profit of the bargain is four annas. Twelve families subsist on this trade.

Buttermilk, ghee and butter are made and sold by some families. But this is not a steady trade. It is dependent on cows giving birth.

*Village trade.*—The volume and the extent of village trade is limited; the wants are few and easily satisfied. Paddy seed for cultivation is not purchased but borrowed from the landlord at an interest of sixty per cent. The amount borrowed with the interest thereon is annually given back to the landlord and again borrowed at the sowing season. The borrower is bound to return paddy fit for seeding.

Other commodities useful for agriculture, such as ropes, vessels used for lifting water, etc., are purchased from the little town of Kunnankulam, eight miles off and belonging to the Native State of Cochin. There is a big bazaar at Kunnankulam where almost all necessaries and luxuries are sold. But the usual market for the village trade is that held on every Thursday at Chalisseri, a large village three miles to the west of Kothachira. People take areca, paddy and other vegetables to this market, get these sold there and with the money thus obtained purchase necessaries; sometimes articles are directly exchanged for paddy. The chief necessaries usually purchased are salt, fish, oil, kerosene, chillis, onions, and cloth to wear. Men and women wear simply one *mundu* around the waist. Hence little clothing is required.

Chalisseri is in a way an important place. Much trade in areca is carried on here. The agents of the areca traders of Chalisseri come to each family and purchase directly the quantities each has to sell. The quantity conveyed to market by the ryot himself is not very great. The selling price of areca varies from three to five rupees per tulam (= 25 lb.) according to time and circumstances. The arecanut traders of Chalisseri are absolute masters of this business and often impose their own terms upon the cultivator. After being cut and dried areca is exported by the former into the districts of the east. The best areca grower has sold nuts worth Rs. 400 a year.

The road that runs from the Pattambai railway station to Chowghat passes through Chalisseri. This is the nearest road to Kothachira people. It winds near Kutnad and thus runs parallel to the northern and western boundaries of Kothachira at a distance of two miles from each. A by-road cut from the western arm of the main road to the house of one of the jenmis at his own expense, has long been out of use and is not adapted for public purposes.

The idea of co-operation is unknown. A public road opened along the private footpath that runs between Karuvathur, a village six miles to the east of Kothachira, and Chalisseri, would be of immense use to the public of these parts. Much traffic is carried on along this footpath between these places specially on market days. It would run across Peringode and along the boundary between Mathur and Kothachira and thus benefit all these desams.

*Economic condition of village.*—The economic condition of this desam is rather discouraging. The people are deep in debt, are overworked and underfed and ground down by a double tyranny, the tyranny of the landlord who is also the money-lender, and the tyranny of deep-rooted custom in all their lives and walks.